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ABSTRACT

This paper presents a case study of the development of the Professional Analysis Team (PAT) program structured after the Quality Circle program used in industry. Modifications and innovations of the Quality Circle program are examined, and essential characteristics are outlined. The PAT program, designed to enable education professionals to use their creativity and expertise to solve problems and assume greater responsibility, creates a formal mechanism that can improve communication and increase teacher input into administrative decisions in an informal meeting setting. It is a method for overcoming the difficulties created by a system in which teaching occurs in isolated classrooms and it avoids problems associated with teachers' loss of professional autonomy. The PAT program was used, initially, in Auburn, New York. Data from this upstate school district was collected from all levels of hierarchy in four elementary, two middle, and one senior high school with a student population of 5,750. Aspects such as selecting participants, training, distribution of information, top-management commitment, and locus of authority are discussed. PAT modifications including compensation and scheduling are outlined, and outcomes of the study are given. Included are 22 references. (WTH)

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PROFESSIONAL ANALYSIS TEAMS IN SCHOOLS: A CASE STUDY*

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PROFESSIONAL ANALYSIS TEAMS IN SCHOOLS: A CASE STUDY

Introduction

During the 1970s, American industry was beset by declining productivity and increasing vulnerability to foreign competition. Looking for explanations, observers initially focused attention on the workforce, its changing demographics and the impact of those changes on the motivation of workers. Industry responded with programs, developed by upper levels of management, that were intended to instigate increased motivation and commitment and to up-grade workers' skills, which were thought to have grown obsolete. What these efforts assumed, of course, was that problems in American industry were due to workers' lack of motivation to perform their jobs. However, blaming the workers' lack of skills and motivation did not prove to be the answer. It became increasingly apparent that traditional managerial practices and hierarchical structures in organizations had played a key role in the decline of American industry (Bentley and Hansen, 1983; Work in America Institute, 1982).

The efforts to revitalize the managerial structures and processes of American industry took several different paths. One approach that gained increasing popularity was the implementation of Quality Circles (The Facilitator, 1984; Yager, 1981). Quality Circle programs were created to improve productivity through increased worker participation in decision-making and problem-solving. Circle members were to use their job related expertise to participate in problem-solving activities that had

previously been left exclusively to management.

The basic Quality Circle program was first developed in Japan to address problems with product quality. To use statistical quality control techniques developed in the United States, a mechanism called Quality Control Circles was created. The circles were small groups of workers and their supervisor working together on a voluntary basis to solve production problems (Azumi, 1982; Thompson, 1982).

Similar to the Japanese model, Quality Circles are small groups of employees from the same work area who volunteer to meet on a regular basis. The purpose of these groups is to discuss and analyze problems, develop and present solutions, and implement those solutions when given the authority to do so. A Quality Circle is intended to offer hourly employees the opportunity to develop and present new ideas that will improve their jobs and ultimately improve the productivity of the organization (Hutchins, 1981; Irving, 1978). Consequently, the majority of Quality Circle participants are hourly employees, but foremen and supervisors are also encouraged to participate, often serving as circle leaders. Some programs include middle managers and technical/professional employees as circle members (Dewar, 1980; Ingle, 1982).

All participants in a Quality Circle program receive training. This is the most important aspect of the program because it presents the skills on which the Quality Circle process depends. Training focuses on several techniques: brainstorming,

problem identification, data collection, basic sampling techniques, data display using charts and graphs, Pareto analysis, cause and effect analysis, and management presentation techniques (Dewar, 1980). Because the Quality Circles use a structured problem-solving process, training also focuses on the sequence of activities, stressing when it is most appropriate to use each technique.

Research on the Quality Circle implementation process in the private sector has suggested that there is no one standard program appropriate to all organizations (Kennedy, 1985). Although most circle programs have a basic structure and a set of techniques in common, there is evidence of modifications in the programs. For example, one organization has a specified length of tenure for circle members. Some firms have circles with members from only one level of the hierarchy while other firms have two or three levels in circles including engineers, technicians and supervisors as well as hourly workers. In some Quality Circle programs each circle has members from one department, whereas other programs select members for a circle on the basis of similar job responsibilities regardless of department. In manufacturing organizations more time is spent training circle participants in statistical quality control methods than is spent in service organizations.

Similar Situation in Education

Criticism of the quality of education in the United States has forced an examination of the structures and processes of

public schools. As in the case of the private sector where the blame was placed on the worker, the primary target of education reformers has been the teacher. There are a number of proposals that focus on improving the skills of teachers or increasing their motivation to teach. These top-down proposals, however, ignore managerial practices and organizational structures. As in the private sector, it is easily apparent that these other issues must be addressed in any successful reform effort. The Professional Analysis Team program is one intervention that addresses these issues.

This paper presents a case study of the development of the Professional Analysis Team (PAT) program. It focuses on the modifications and innovations of the Quality Circle model and the characteristics essential to such participatory programs.

Organizational Analysis and Practice, Inc. designed the Professional Analysis Team program to enable education professionals to use their creativity and expertise to solve problems and assume greater responsibilty in school districts. This program, similar to Quality Circle programs, creates a formal mechanism that can improve communication and increase teacher input into administrative decisions. It is a method for overcoming the difficulties created by a system where teaching occurs in isolated classrooms and, at the same time, avoids problems associated with teachers' loss of professional autonomy. The Professional Analysis Teams have been specifically designed for school districts as an alternative to the industrial-based

Quality Circle model.

Professional Analysis Teams were first used in the Auburn, New York school district. Auburn is an upstate New York district with 5750 students and 356 teachers in four elementary schools, two middle schools and one senior high school. This district had initially participated in two studies, one examining how various groups within a school district reach consensus and the second examining working conditions. Data were collected from all levels of the hierarchy: school board, central administration, building level administrators and teachers from all seven schools. Subsequent discussion and analysis of these data revealed that there was a lack of communication within the district and that distrust between levels was high. For example, principals distrusted the superintendent and felt isolated from the central administration. The superintendent perceived the principals to be highly individual actors with little sense of administrative solidarity. The teachers expressed high levels of distrust for principals and little sense of membership in the district as a whole. The superintendent in Auburn decided to examine interventions that would improve communication and morale throughout the district.

Over the course of several months, meetings were held in Auburn to examine various quality of work life programs and their philosophies. The superintendent invited members of the union, school board, school administration and faculty to attend and discuss the ideas presented. During one of these meetings

the Quality Circle concept was presented. One school board member, a personnel director for a manufacturing firm, had found Quality Circles to be valuable to his company. Following the presentation on Quality Circles and with the support of the school board, the superintendent decided to implement a Quality Circle program in the Auburn school district.

Essential Program Characteristics

Several aspects of the basic Quality Circle program were considered so essential to successful implementation of a specific program, indeed to any organizational innovation, that they received careful attention. First, the method for selecting participants for an innovation program is critical to the success of that change effort. Research in change has consistently noted that when change is imposed rather than voluntary, resistance tends to increase and cooperation tends to decrease (Beer, 1980; Greiner, 1979; Beckhard and Harris, 1977 Beer and Driscoll, 1975; Argris, 1970; Beckhard, 1969). Quality Circle programs stress the voluntary nature of participation. No individual should be forced to become a member of a circle; no manager should be forced to accept a circle within a department. Professional Analysis Teams were also structured as volunteer groups. Presentations to principals and faculties explained the program and invited participation. It was emphasized that individuals could volunteer as participants and were not obligated to remain on the teams.

Second, training continued to receive emphasis. It was

agreed that all participants would receive training in structured group problem-solving. This was done to assert the nature of the problem-solving program as it differs from the more typical task force or faculty advisory committee structures. As important, rigorous training helps reduce resistance to change by building group cohesion through a knowledge of collective constraints (Kaufman, 1971).

Third, writers on organizational change agree that resistance tends to decrease when those who will be affected by the proposed innovation are informed about the need for change, the plans for change, and the possible consequences (Huse, 1975; Bushe, 1983). The basic Quality Circle program calls for the distribution of a great deal of information at the initial implementation stages. In implementing the Professional Analysis Team program in Auburn, all organizational levels received information about the proposed innovation. The details of the program were discussed with school board and central administration members in order to solicit the commitment of top management. Principals not only received information about the program, they also attended a day-long workshop during which they aired their problems and facilitators showed how the program could be used to address their concerns. Presentations were made to faculties at individual schools, and union leaders discussed the implications for the labor-management relationship.

A fourth feature of Quality Circle programs that was continued was attention to top-management commitment. The import-

ance of this commitment to organizational change is consistently recognized by writers in the field (Medina, 1982; Kaufman, 1971; Huse, 1975; Bushe, 1983). As mentioned earlier, school board members and central administrators received information about the program and details of how it would function in the district. Working in conjunction, the school board and superintendent agreed that implemention in all the schools would be an administrative objective for the district. The implementation was also included in the superintendent's personal performance objectives. Other evidence of top management commitment was also sought and will be discussed in later sections of this paper dealing with modifications.

Finally, the process of including workers in decision-making in Quality Circles is accomplished without changing the locus of final authority. While workers analyze problems and develop solutions, they do not have the authority to make change but must present their suggestions to management for approval. This is an essential element because it lessens fear of loss of managerial control and prevents the loss of role and activity coordination which are legitimate managerial concerns (Bushe, 1983). It was decided to carefully emphasize this aspect in Professional Analysis Team development. The purpose of these programs is to include principals and teachers in solving school problems; the purpose is not to initiate conflict over authority and control.

PAT MODIFICATIONS

Modifications of the basic Quality Circle program were developed in two ways. First, prior to implementing the program, innovations were created based on the characteristics unique to school districts. Second, after implementation, other modifications were necessary to meet the needs of the participants and ensure program effectiveness. These innovations and changes in the basic Quality Circle program resulted in the creation of the Professional Analysis Team program.

The first innovation that differentiated the Professional Analysis Team program from the traditional Quality Circle program was the creation of a principal's team rather than including prinicipals on teacher teams. In many Quality Circle programs most of the circles include hourly workers and their supervisor or foreman, and each circle has members from only one department. There were several reasons for establishing a separate team for principals. First, while the principals share job responsibilities and functions, their work is significantly different from the responsibilities of central administrators and teachers. Second, the position of principals within the school district is similar to middle management in other organizations. Research on organizational change, especially change that increases worker participation, has suggested that there is a high degree of resistance from middle managers toward any innovations when they were not included in the change effort (Bushe, 1983). By creating a principal's team, the principals

were reassured that the PAT program was designed to increase their participation in district problem-solving as well as teachers' participation in school problem-solving. Third, the principal in each school was the administrator/manager to whom the teacher teams would make their presentations. Consequently, it was vital that the principals not only understand the Professional Analysis Team process but actively support it. By participating in their own team, the principals became active supporters for the teacher teams.

Two other issues that were a major concern when designing the program were compensation and scheduling. Quality Circle programs compensate employees for participating in the program either by giving them paid time off to attend circle meetings during work or paying them overtime if the circle meets before or after work. In most organizations management arranges schedules for circle meetings during working hours. When circles are created in departments where meetings during working hours would drastically curtail operations (such as assembly lines or emergency rooms in hospitals) management arranges meetings before or after shifts. In school districts education professionals cannot take time off during work for team meetings. Taking teachers away from the classroom would interfere with the education of the students. Moreoever, the district would be required to hire substitutes who must be hired for a full day even if the teachers are at a meeting for only several hours. Finally, teachers and principals in Aurburn are highly sensitive

to "face-time" with students and generally believe they are called out of class for meetings too frequently. The apparent need to schedule team meetings at times when school was not in session suggested the need for a compensation plan. Since most school districts often have budget constraints, monetary compensation was viewed as a serious dilemma.

The Professional Analysis Team program designers decided to present the problems of scheduling and compensation as the first problem for the prinicpal team to address as part of their training. Consequently, it was this team that proposed a compensation plan for participants in Auburn. The superintendent approved their proposal to compensate participants for four of the six hours spent per month at team meetings. The principal team also established a meeting schedule - one Saturday per month for four hours and one weekday per month after school for two hours. Teacher teams were also asked to determine their meeting schedules, most choosing to meet twice per month during the week after school for one two-hour session and one four-hour session. The compensation arrangement was carried over to include four hours of compensation for teacher participants.

The area of compensation provided another piece of evidence that top management was committed to the program. The superintendent recognized that partial compensation for participants, especially as suggested by a team, was an important way to demonstrate top administrative support for the program. As several participants have stated, they were willing to contribute

something - time - but they expected the district to contribute something too. Partial monetary compensation was considered a fair exchange.

Training Modifications

There were several modifications made in training Professional Analysis Team members that distinguish this program from Quality Circles. The first group of modifications addressed the nature of the problems that confront school personnel. First, as an industrial based model, Quality Circle programs often emphasize statistical quality control. The Professional Analysis Team training does not offer such extensive training in this area because education professionals address problems that do not use such methods. Second, many Quality Circles work on problems that have obvious solutions once the problem has been adequately analyzed. In Professional Analysis Teams, the complexity of problems and the analysis often do not point to an obvious solution. Consequently, Professional Analysis Team training emphasizes solution development, that is, identifying possible solutions, evaluating and gathering data, if necessary, before selecting a solution. Third, although Quality Circles do use action plans, they do so primarily as implementation plans. The Professional Analysis Team program uses action plans and implementation plans. The action plans are used to organize team activities when working on a problem. They serve to identify things that must be done for a meeting and to review the work accomplished. Action plans also ensure that all team members are

working toward a defined objective and help the team assess their accomplishments toward that goal. Again, given the complexity of the problems and issues confronted by Professional Analysis Teams, action plans are necessary to help the team stay on track. Implementation plans are used to describe the activity necessary to implement the proposed solution. These plans list steps to be completed, when they are to be completed, who is responsible for each step and who will evaluate the implementation of the proposal.

A final issue is Professional Analysis Team jurisdiction. Similar to Quality Circles, union contract issues were off limits to Professional Analysis Teams. Quality Circles also restrict circle jurisdiction to problems that occur within the department in which the circle members work. As previously stated, teacher team members were from various grade levels and subject areas, and principal team members were from all schools in the district. Consequently, it was not possible to restrict team jurisdiction to problems within a particular department. Teacher teams were given jurisdiction to address any problem that affected their jobs within their particular school. Principals were given jurisdiction to address problems that affected their responsibilities as administrators. The difficulty defining Professional Analysis Team jurisdiction more specifically reflects both the characteristics of a school district and the jobs of education professionals.

One important aspect of school districts which makes them

significantly different from manufacturing organizations is the extent to which many of their activities are dictated by external organizations. For example, the state of New York mandates certain curricula, such as teaching bicycle safety and prevention of sexual child abuse in elementary schools. The Auburn school district is required to keep a wide variety of records on students. Students are required to take standardized tests. Remediation of students with special needs is required by the state. Selection of students for remediation is usually determined by cut-off scores determined by the state on standardized tests. Eligibility to receive state and federal funds, such as Title I, is dependent upon the district's compliance with established regulations. All of these external requirements have an impact on the jobs of educators and often create some of the problems these professionals confront.

Another characteristic of school districts that makes Professional Analysis Team jurisdiction problematic is the interdependence among educators. There is a need to maintain consistency in education throughout the district. For example, there is a similar curriculum for a particular grade level throughout the district regardless of which school a student attends. Further, within a school there is a sequence of activities at each grade level that will affect the activities of a subsequent grade. Consequently, the problems identified by the Professional Analysis Teams often have implications for individuals who are not team participants.

A final concern related to the interdependence of educators is that Professional Analysis Teams often have similar concerns. For example, the principal team identified low student reading scores in the district as one problem to be addressed. An elementary school teacher Professional Analysis Team chose to work on the problem of the high rate of retention in their school. As both teams worked on these problems it became apparent that they were working toward similar solutions. In cases such as this, the teacher team can present their work to the principal Professional Analysis Team which has broader jurisdiction and can develop a solution to be presented for implementation throughout the district. This flexibility in the jurisdiction of the Professional Analysis Team program offers greater opportunity for the teacher teams to address problems that may have broader implications within the district without crossing into the principal team jurisdiction.

A last consideration in determining Professional Analysis Team jurisdiction is the participants in the Professional Analysis Team program. Unlike most Quality Circle participants, all Professional Analysis Team members are professionals. They have had extensive formal training for their profession. There is a code of ethics to which they subscribe and a set of values that they bring to their school and district. Thus, it is not surprising that educators share common concerns that are often broader than one department, one school or even one district. To further limit the jurisdiction of Professional Analysis Teams

would lessen the impact that such teams can have in improving schools.

Participant-Suggested Modifications

After implementing the Professional Analysis Team program in Auburn some additional innovations were developed to meet the needs of the participants. All of these innovations were in the training which the participants received.

Problem identification proved to be particularly difficult for team members. As professionals, Professional Analysis Team participants often have high ambiguity and complexity in their jobs. Consequently, the problems that they identify tend to be highly complex. Additionally, there was a strong tendency to combine problems based on a common theme. For example, the problem with students being removed from class for special help was linked to the problem of poor study skills and remediation activities. Special training was required to retrain participants to think not in terms of common themes but rather in terms of dividing an issue into its various parts.

A second difficulty for participants with problem identification was developing concrete operational definitions of the problems and issues discussed. Again, Professional Analysis Team participants often discuss abstract, complex problems. As professionals, members often assume they use the same vocabulary in the same way. Additional training was required to encourage participants to consciously avoid making assumptions about what their colleagues mean.

During training in data collection another innovation was introduced at the request of the Professional Analysis Team members. They were very interested in learning about the use and construction of attitudinal surveys and questionnaries. Professional Analysis Teams have used these instruments to collect data on problems, solicit suggestions from colleagues who are not participants, and as pre- and post- measures for evaluation.

As a direct result of the training in the use and construction of attitudinal surveys and questionnaires it was necessary to train participants in the analysis of data from these instruments. Teams were taught how to organize and simplify raw survey data and how to use these data to support their position. They also learned how and when to explain inconsistent data.

A final innovation in the training of PAT participants was the inclusion of a brief session about school districts as organizational systems and the political processes within them. This session was included because of the interdependence among educators and the subsequent impact a team proposal could have on non-participants. This session addressed such issues as identifying non-participants who would be affected when a proposal was implemented and ways to develop support from those individuals.

Sensitivity to these issues has been demonstrated in a variety of ways. When collecting data to identify causes of problems, all the teams survey members of groups who are likely

to be affected by the problems. One elementary school team developed a questionnire about cafeteria behavior and conditions for all the students. The results helped team members to coordinate their own sense of cafeteria problems with the problems the students experience. The high school team invited students to meetings when changes in the cafeteria environment were being disucssed. The teachers and students suggested ways to make the cafeteria more attractive. All the teacher teams have had excellent response rates to their surveys, on several occasions gathering information from 100% of the faculty.

OUTCOMES

There have been a number of positive results from the PAT program in Auburn. Problems addressed in team presentations have included: a proposal for a centralized, computerized system for student records, the redesign of a cafeteria in an elementary school, activities to improve teacher and student morale in an elementary school, a program to improve the environment of the high school cafeteria, and a plan to reduce the numbers of students "pulled out" of class for non-instructional activities. Communication between the principals and superintendent have between teachers and principals has improved. There is a strong sense among participants that there is greater respect for their expertise and support for their suggestions.

Twice in the past year, teams worked on problems that were not concluded with the acceptance of a suggested proposal. One aspect of the elementary school team's proposal for an improved

cafeteria was the construction of a playground immediately adjacent to the cafeteria. The prinicipal could not accept this proposal because this kind of construction is listed on the district's budget not the school's. However, the principal carried the idea to the superintendent and school board, and as of the present time, it seems that the new playground will receive priority in this year's district budget.

The high school team decided to address the problem of too much paper work. The members reasoned that they would have more time for instruction if administrators, counselors, and teachers who sponsor extra-curricular activites required fewer forms for completion. They collected data to determine the extent of the problem among faculty members. They sent a questionnaire to all faculty members and also kept a tally of the pieces of paper they completed during a two-week period. They found that the vast majority of work was generated by themselves in the form of tests, class assignments, and homework assignments. In the face of this information, the team decided to drop the problem. While they continue to see paper work as a burdensome aspect of their work, they no longer perceive the administration, counselors, and other teachers as the source of the burden. There has been some informal discussion of re-opening the problem from the point of view of time management or scheduling.

Participation in the PAT program has had a noticeable impact on the principals. Initially, there was little sense of collegiality among the prinicipals, especially between elementary and

middle school principals and the high school principal. There was an assumption that they had very different concerns. Their work as a team has illustrated that in fact they have many common problems. It has also encouraged them to develop a strong peer support group. After the first year as a team, the principals decided to invite the assistant principals to join their team. The expansion of the team has been successful and they continue to address issues that confront the Auburn school district. One advantage of this expansion has been the support for the program from assistant principals who subsequently have become principals in schools where there are teacher PATs. Their active involvement in the program prior to promotion has avoided the situation where they were forced to accept this program in their school without knowing anything about it. Moreover, the program continues to expand. Several principals have asked to have teams introduced to the teachers in their schools, additional teachers have joined already established teams, and there are volunteer teachers available for the formation of new teams.

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